

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A ~~T~~ransmitter for Free Space Optical transmission systems, the transmitter including: at least one convergent lens having a corresponding focal point located at a focal distance (f) from the convergent lens along an optical axis; and at least one source of light situated behind the convergent lens in order to produce a beam of light carrying a signal to be transmitted on air, the at least one source of light being situated at a source distance (f_1) from the convergent lens, ~~characterised in that it also includes~~and means for changing the source distance (f_1) for changing the angle of divergence (α) of the beam of light in a corresponding manner,

characterized in that said means for changing the source distance (f_1) are operable so as to maintain a wide angle of divergence (α) in good visibility conditions of the link, namely in conditions that are sufficient to guarantee the quality of the link, and to reduce the angle of divergence (α) proportionally to worsening of environmental conditions along the link.

2. (currently amended) A ~~T~~ransmitter according to claim 1, characterised in that said means for changing the source distance (f_1) include means capable of reducing the source distance (f_1) ~~and of increasing~~so as to increase in a corresponding manner the angle of divergence of the beam of light and means capable of increasing the source distance (f_1) so as to decrease or substantially cancel out the angle ~~of (α)~~ of divergence.

3. (currently amended) A ~~T~~transmitter according to claim 1, characterised in that said means for changing the source distance (f_1) are responsive to information concerning the level of power received by a local optical receiver.

4. (currently amended) A ~~T~~transmitter according to claim 1, characterised in that said means for changing the source distance (f_1) include one or more stepping motors and one or more worm gears.

5. (currently amended) A ~~T~~transmitter according to claim 1, characterised in that said means for changing the source distance (f_1) include magnetic transducers ~~or other similar~~ devices.

6. (currently amended) A ~~T~~transmitter according to claim 1, characterised in that said at least one source of light includes a laser light source or an optical fibre termination.

7. (currently amended) A ~~T~~transceiver for Free Space Optical (FSO) transmission systems, characterised in that it includes one or more transmitters according to claim 1.

8. (currently amended) A Free Space Optical (FSO) transmission system, characterised in that it includes at least two transceivers according to claim 7.

9. (currently amended) A Mmethod for providing, in a transmitter for Free Space Optical transmission systems, a variable-divergence laser beam, said method including the following steps: ~~provision~~providing of at least one convergent lens having a corresponding focal point situated at a focal distance (f) from the at least one convergent lens along ~~an~~ optical axis; ~~and~~ ~~provision~~providing of at least one source of light situated behind the at least one convergent lens for producing a beam of light carrying a signal to be transmitted on air, the at least one source of light being situated at a source distance (f_1) from the at least one convergent lens, ~~characterised in that it includes the step of~~and changing the source distance (f_1) in order to alter the angle of divergence (α) of the beam of light in a corresponding manner,

characterized in that said step of changing the source distance (f_1) is carried out so as to maintain a wide angle of divergence (α) in good visibility conditions of the link, namely in conditions that are sufficient to guarantee the quality of the link, and to reduce the angle of divergence (α) proportionally to worsening of environmental conditions along the link.

10. (currently amended) A Mmethod according to claim 9, characterised in that the step of changing the source distance (f_1) includes the step of shortening the source distance (f_1) in order to increase the angle of divergence (α) of the beam of light in a corresponding ~~manner and~~ ~~the step of increasing the source distance (f_1) in order to decrease or substantially cancel out the angle (α) of divergence.~~

11. (currently amended) A ~~M~~method according to claim 9, characterised in that the step of changing the source distance (f_1) takes place in response to information concerning the level of power received from a local optical receiver.

12. (new) A method according to claim 9, characterized in that the step of changing the source distance (f_1) includes the step of increasing the source distance (f_1) in order to decrease or substantially cancel out the angle (α) of divergence